



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,217	03/17/2004	Taras G. Pokhil	169.12-0594	3533

164 7590 06/29/2005

KINNEY & LANGE, P.A.
THE KINNEY & LANGE BUILDING
312 SOUTH THIRD STREET
MINNEAPOLIS, MN 55415-1002

EXAMINER

NEGRON, DANIEL L

ART UNIT	PAPER NUMBER
----------	--------------

2651

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,217

Applicant(s)

POKHIL ET AL.

Examiner

Daniell L. Negrón

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/17/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The references labeled as "AA" and "AB" in the information disclosure statement (IDS) submitted on March 17, 2004 have been considered by the examiner.

Regarding the reference labeled as "AC", Examiner found that the document number 6,059,621 does not match the publication date nor the name of patentee provided by Applicant. Furthermore, Examiner has found no relevance between patent no. 6,059,621 and the current application. For these reasons, this document has not been considered.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 and 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kryder et al U.S. Patent No. 6,011,664.

Regarding claims 14 and 18, Kryder et al disclose a magnetic writer for writing to a magnetic media, the magnetic writer comprising a write pole (44) responsive to a write current to generate a magnetic write field and a write current circuit for generating the write current with a first component generating a magnetic write field (30) and a second component generating a high frequency (radio frequency) magnetic field (50), the magnetic field being controlled to create an area of magnetic resonance within the magnetic media, based on the magnitude of the magnetic write field and the frequency of the high frequency magnetic field, wherein the area of magnetic resonance within the magnetic media is magnetically polarized in the direction of the magnetic write field (column 5, lines 52-57).

Regarding claim 15, Kryder et al disclose a magnetic writer wherein the second component of the write current is created by configuring the write current generating circuit to produce high frequency oscillations following a transition in the write current from one direction to an opposite direction (column 5, lines 58-67).

Regarding claim 16, Kryder et al disclose a magnetic writer wherein the second component of the write current is created by modulating the write current with a high frequency current (column 2, line 64 through column 3, line 3). It is considered that the high frequency (i.e. radio frequency) field is being modulated since the radio frequency signal is provided to the static field disclosed by Kryder et al.

Regarding claim 17, Kryder et al disclose a magnetic writer wherein the second component of the write current creates magnetic precession within the write pole, wherein magnetic precession within the write pole generates the high frequency magnetic field. Although not specifically shown by Kryder et al, the limitations are considered inherently disclosed by the reference since it is shown on column 2, lines 8-25 that magnetic precession is caused by the radio frequency field.

Regarding claim 19, Kryder et al disclose a magnetic writer wherein the high frequency magnetic field is oriented perpendicular to the magnetic media (column 6, lines 4-19 and Figures 4a-d).

Regarding claim 20, Kryder et al disclose a magnetic writer wherein the area of magnetic resonance is dependent on the physical properties of the magnetic media (column 2, lines 8-14), the frequency of the high frequency field (column 5, lines 52-57), and the magnitude of the magnetic write field (column 5, lines 58-67). Furthermore, it is considered inherently disclosed

Art Unit: 2651

in the reference that magnetic resonance is dependent on physical properties since Kryder et al show that resonant frequency need to be sufficient in order for a material to switch from one orientation to another (column 2, lines 8-14).

Regarding claims 1-5, 7, and 8, method claims 1-5, 7, and 8 are drawn to the method of using the corresponding apparatus claimed in claims 14, 15, and 17-19. Therefore method claims 1-5, 7, and 8 correspond to apparatus claims 14, 15, and 17-19 and are rejected for the same reasons of anticipation as used above.

Regarding claim 6, Kryder et al disclose a method of writing to a magnetic media wherein the high frequency magnetic field is oriented parallel to the magnetic media (see Fig. 5 and disclosure thereof).

Regarding claim 12, Kryder et al disclose a method of writing to a magnetic media wherein a period of the high frequency magnetic field is no less than the switching time between positive and negative magnitudes of the magnetic write field. Kryder et al show that a high frequency field is used specifically to switch the orientation of the magnetization of the magnetic media, it is therefore considered that the high frequency magnetic field cannot be less than the switching time if orientation switch is to occur.

Regarding claims 11 and 13, the optimization of a range holds no patentable weight because it is not inventive to discover the optimum or workable ranges by routine experimentation (see *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kryder et al U.S. Patent No. 6,011,664 in view of Pelhos et al U.S. Patent Application Publication No. 2004/0115481.

Regarding claim 9, Kryder et al disclose a method of writing to a magnetic media comprising all the limitations of claim 1 as discussed above but fail to show wherein the magnetic media has a tilted anisotropy. However, Pelhos et al discloses a magnetic media possessing a tilted magnetic anisotropy used for the purpose of allowing high density recording (page 1, paragraphs 9 and 10).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the magnetic writer disclosed by Kryder et al with the teachings of magnetic media with tilted anisotropy as taught by Pelhos et al in order to obtain a magnetic writer comprising magnetic media which allows for higher coercivity, recording reliability and data density.

Art Unit: 2651

Allowable Subject Matter


5. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30-6:00) alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DLN 
June 21, 2005


DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600